



EOSDIS

NASA'S EARTH OBSERVING SYSTEM
DATA AND INFORMATION SYSTEM

Incorporating ISO Metadata Using HDF Product Designer

Aleksandar Jelenak, John Kozimor, Ted Habermann
The HDF Group

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The Problem

The need for more contextual data (metadata) in HDF5 files is growing.

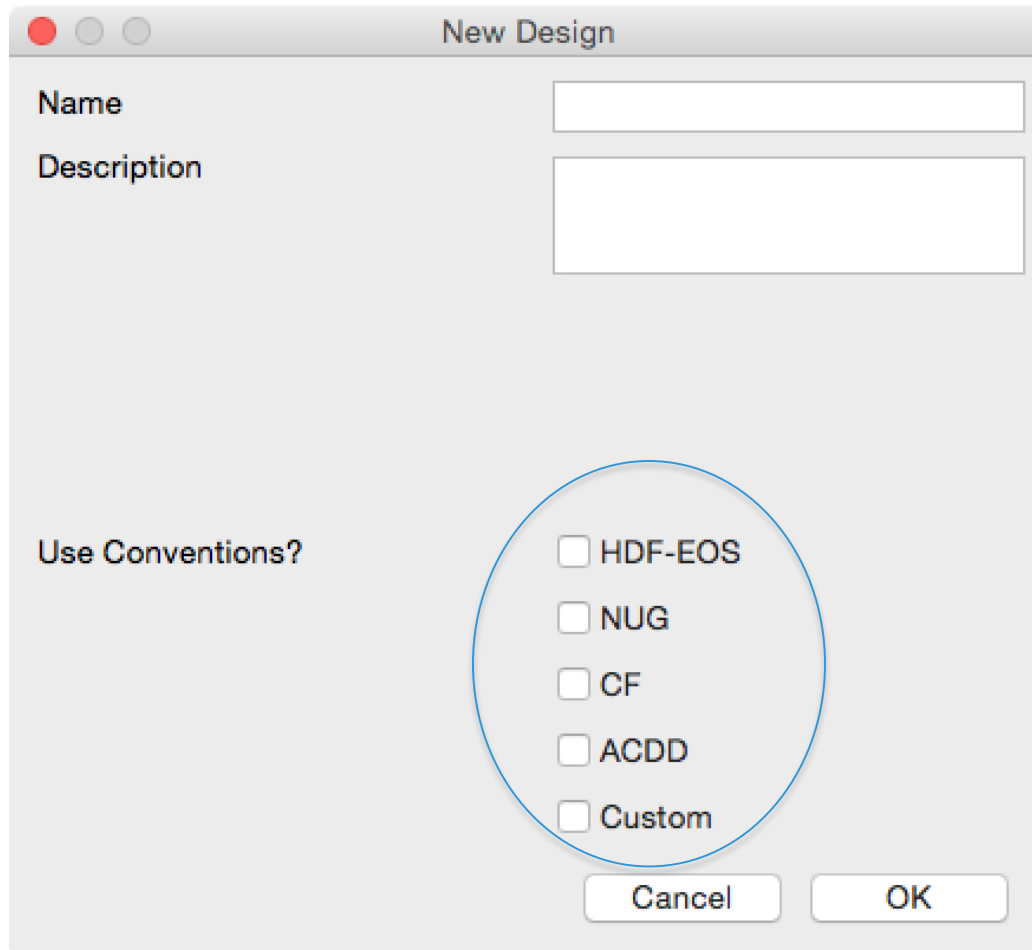
How to Solve It?

1. Invent your own. Typically implemented as a set of HDF5 attributes with project/mission-specific names.
2. Use the current conventions to the their fullest extent. Store the rest of metadata using the ISO 19115 standards.

HDF Product Designer Can Help

- Support for the most widely used Earth science metadata conventions.
- The latest release (v1.4) allows import of ISO metadata objects.

Convention Support



A screenshot of a 'New Design' dialog box. The dialog has a title bar with standard window controls (red, yellow, green buttons). Below the title bar, there are two text input fields: 'Name' and 'Description'. Below these fields, there is a section titled 'Use Conventions?' followed by a list of five checkboxes: 'HDF-EOS', 'NUG', 'CF', 'ACDD', and 'Custom'. A blue circle is drawn around this list of checkboxes. At the bottom right of the dialog, there are two buttons: 'Cancel' and 'OK'.

New Design

Name

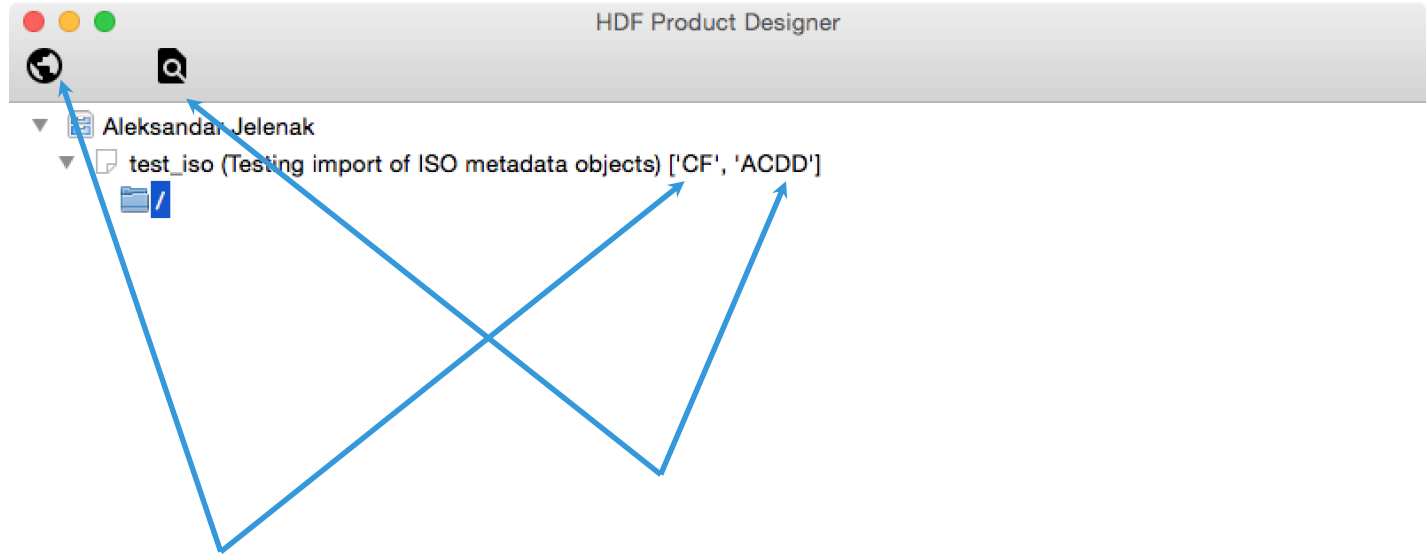
Description

Use Conventions?

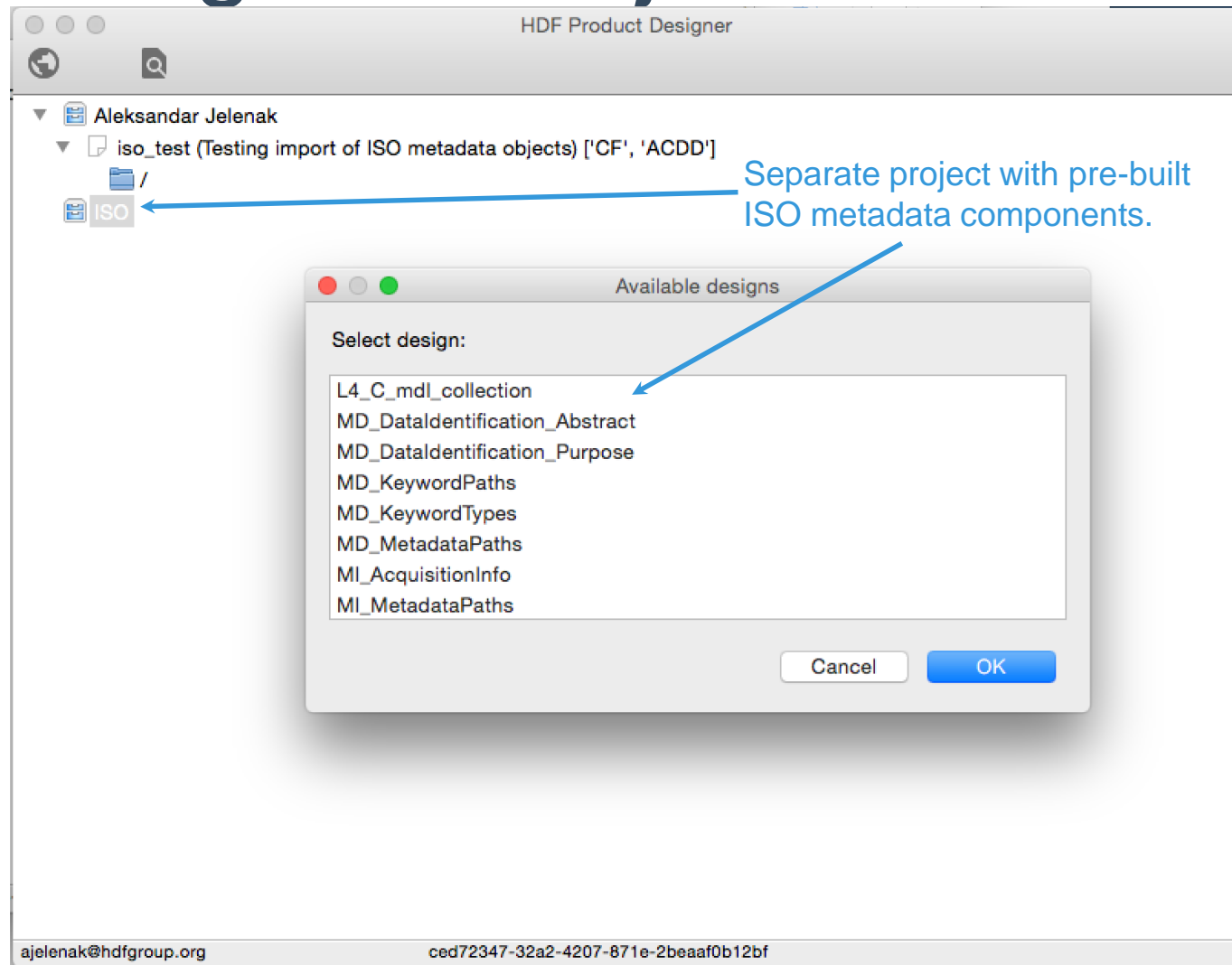
- ☐ HDF-EOS
- ☐ NUG
- ☐ CF
- ☐ ACDD
- ☐ Custom

Cancel OK

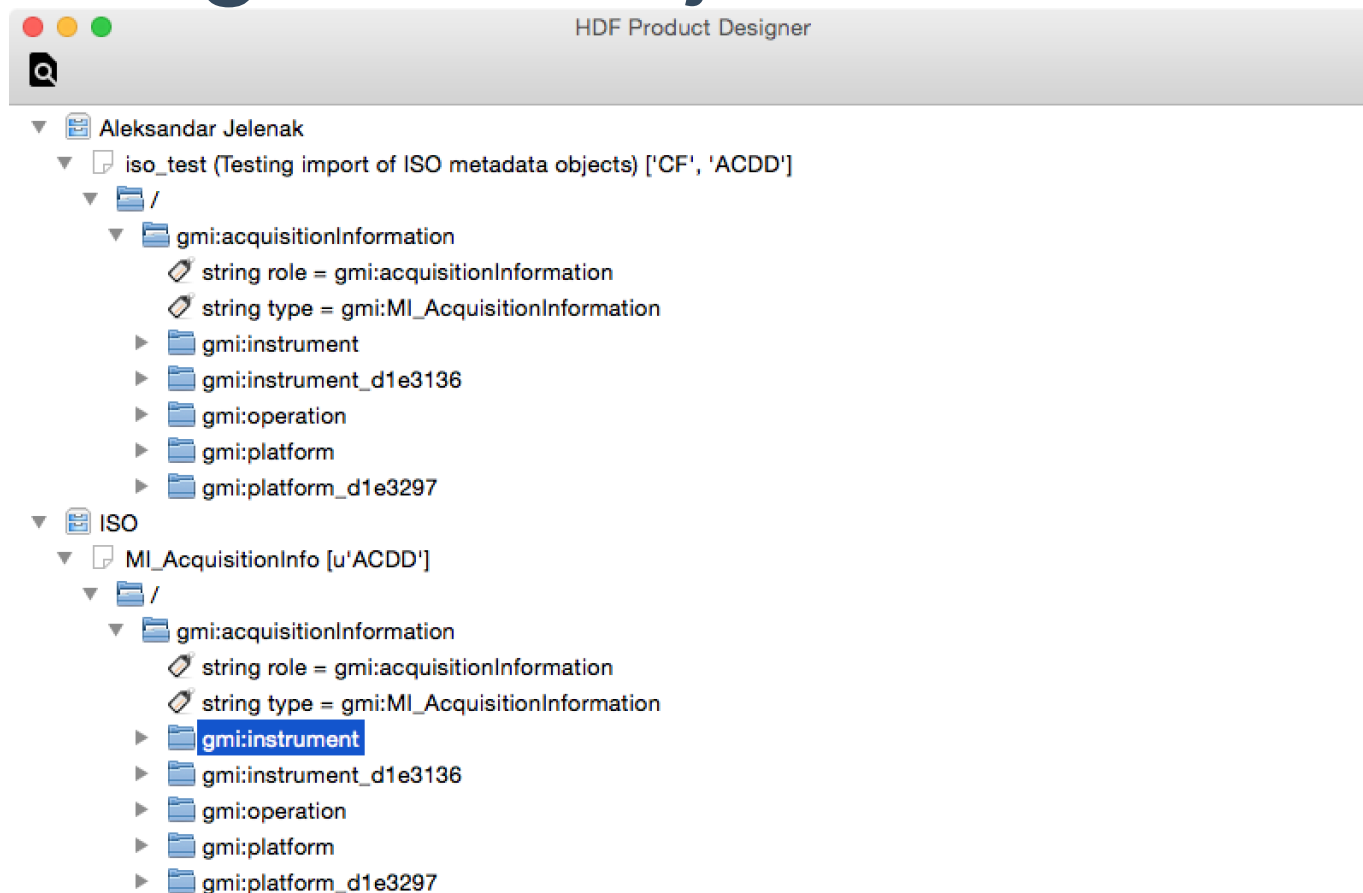
Convention Support



Importing ISO Objects



Importing ISO Objects



Export As...

- Template (skeleton) HDF5 file
- Python/MATLAB/IDL source code
- The source code can be further reused for more customized reader/writer code

Sample of Python Code

```
# Group: /gmi:acquisitionInformation
grp_1 = f.create_group('gmi:acquisitionInformation')
# Creating attributes for /gmi:acquisitionInformation
grp_1.attrs['role'] = "gmi:acquisitionInformation"
grp_1.attrs['type'] = "gmi:MI_AcquisitionInformation"

# Group: /gmi:acquisitionInformation/gmi:instrument
grp_2 = grp_1.create_group('gmi:instrument')
# Creating attributes for /gmi:acquisitionInformation/gmi:instrument
grp_2.attrs['role'] = "gmi:instrument"
grp_2.attrs['type'] = "gmi:MI_Instrument"
grp_2.attrs['id'] = "instrument_1"

# Group: /gmi:acquisitionInformation/gmi:instrument/gmi:citation
grp_3 = grp_2.create_group('gmi:citation')
# Creating attributes for /gmi:acquisitionInformation/gmi:instrument/gmi:citation
grp_3.attrs['role'] = "gmi:citation"
grp_3.attrs['type'] = "gmd:CI_Citation"
grp_3.attrs['id'] = "fgdccitation_26722.114902.35002"

# Group: /gmi:acquisitionInformation/gmi:instrument/gmi:citation/gmd:date
grp_4 = grp_3.create_group('gmd:date')
# Creating attributes for /gmi:acquisitionInformation/gmi:instrument/gmi:citation/gmd:date
grp_4.attrs['role'] = "gmd:date"
grp_4.attrs['type'] = "gmd:CI_Date"
```

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